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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,702	12/28/2001	David M. Lee	42390.P13768	2187

7590 06/28/2005	EXAMINER
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP Seventh Floor 12400 Wilshire Boulevard Los Angeles, CA 90025-1026	SHAH, CHIRAG G

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/040,702	LEE ET AL.
	Examiner	Art Unit	
	Chirag G. Shah	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _30 March 2005_.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-8 and 10-15_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-8 and 10-15_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _1 sheet_.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-6 rejected under 35 U.S.C. 102(e) as being anticipated by Webber (U.S. Pub

No. 2003/0039209).

Referring to claim 1,

Webber discloses in figure 2 and paragraphs 0017-0020 of a method of receiving

a completion packet [acknowledgement positive or negative packet as disclosed in fig. 2

and paragraph 0018] at a receiving device [requesting device], the completion packet

including a completor identification [as disclosed in 0017 and 0020, for example a

positive acknowledgment is received to the requester from the responder for packet 1 as

initially tagged by requester];

determining whether the completion packet received from the identified

completor is expected by the receiving device [As disclosed in 0020 and figure 2, this

determination is made by the requester when it receives a message from the responder by

comparing based on sequence number of the last packet in the descriptor for the message

with the sequence number of the acknowledgment received for that same message. In

other words as further disclosed in 0020, if a request was made by the requester, the

request tags (numbers) the packets by writing a sequence number in each packet header

as they are transmitted, the responder transmits an acknowledgment back to the requester

when it receives a packet, which includes the packet's sequence numbers]; and

discarding the completion packet if the completion packet is not expected [As

disclosed in paragraph 0020-0021, if the responder detects a remote error in a packet of a

message, it sends a negative acknowledgement to the requester while discarding any

subsequent packets in the message. A remote error is an error detected by the requester

after a packet has been received. Upon receiving the negative acknowledgement, the

requester completes the message in error by writing a negative completion code to the

CQ and the message is terminated/discarded] as claim.

Referring to claim 2, Webber discloses in paragraph 0026 and in figure 2&5 wherein
determining whether the completion packet is expected includes determining whether the

completion packet corresponds to any outstanding requests previously issued by the receiving

device as claim.

Referring to claim 3, Webber discloses in paragraph 0026 of further comprising reporting

an error condition as claim.

Referring to claim 4, Webber discloses in figure 2 and paragraphs 0017-0020 of a

method, comprising:

receiving a completion packet [acknowledgment positive or negative packet as

disclosed in figure 2 and paragraph 0018] at a receiving device [requesting device], the

completion packet [ack packet] including a completion status [positive, negative,

retransmission as disclosed in 0018] and a completor identification [packet tag (sequence

number) as disclosed in 0017];

determining whether the completion packet includes a completion status other

than successful [As disclosed in 0018-0020, a negative acknowledgment indicates that

the responder has detected a remote error in a packet transmitted by the requester. The

requester determines whether the ack packet includes a positive or negative packet

completion status]; and

storing the completor identification in a first register (CQ) if the completion status

is other than successful [As disclosed in paragraph 0020, upon receiving a negative

acknowledgment, the requester completes the message in error by writing a negative

completion code to the CQ and the message is terminated] as claim.

Referring to claim 5, Webber discloses in paragraphs 0019-0020 of further including

indicating in a second register [in memory 102 called the completion Queue (CQ)] that an

unsuccessful completion (negative acknowledgment) was received if the completion status is

other than successful (a detected remote error) as claim.

Referring to claim 6, Webber discloses in paragraph 0018 and 0026 and in figure 2&5,

further comprising reporting an error condition if the completion status is other than successful

as claim.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 7-8 and 10-15 rejected under 35 U.S.C. 103(a) as being unpatentable over

Webber in view of Garcia et al. (U.S. Patent No. 6,493,343).

Referring to claim 7, Webber discloses in figure 2 and in paragraphs 0017-0020 of a

method comprising:

servicing a request packet [packet 1, packet 2, etc. of paragraph 0017] from a

requesting device [101 in figure 2] at a completor device [responder 103 in figure 3], the

request packet including a requestor identification and a tag [as disclosed in 0017, the

requester tags (numbers) the packets as they are transmitted by writing a sequence

number in each packet header] ;

transmitting a completion packet with a completion status other than successful

from the completor device to the request device if an error condition exist [As disclosed

in figure 2, paragraph 0018, The responder transmits a negative acknowledgement

indicating that the responder has detected a remote error in the packet transmitted by the

requester]; and

Webber discloses in paragraph 0020, upon receiving a negative acknowledgment, the

requester completes the message in error by writing a negative completion code to the CQ and

the message is terminated. Webber fails to explicitly disclose of storing the requestor

identification at a location in the completor device if the error condition exists. Webber discloses

further in 0017-0019 that the respective paragraphs that the responder 103 transmits an

acknowledgment (negative) back to the requester 102 when it receives a packet, which includes

the packet's sequence number. *Webber further fails to disclose indicating in a register in the*

completor device that a completion packet with a completor status other than successful was

generated/transmitted if the error exists. Garcia teaches a system where both the requester and

responder nodes maintain local copies of a message sequence number. Garcia discloses in

column 9, lines 60-67 that the responder when it generates either a positive or negative

acknowledgment, it has a logic that copies the incoming sequence numbers and uses it in the

sequence number field for acknowledgment. Garcia further discloses in col. 9, lines 42-67 that

the sequence number is used for generating a positive or negative acknowledgement.

Furthermore based on the respective section, when the responder serving as a completor device

stores the sequence number in the logic (register) is of negative status, a negative

acknowledgment is generated when a packet was not successfully received or was unexpected in

the order. Thus, the responder serving as the completor device stores the sequence numbers in

the logic having a negative and positive acknowledgment. Therefore, it would have been to one

of ordinary skills in the art at the time of the invention to modify the teachings of Webber to

include a memory logic in the completor device as taught by Garcia for storing acknowledgment error tags in order to provide high reliability and low latency communication in the event of failure.

Referring to claim 8, Webber discloses in 0017 and figure 2 that the requester 101 tags the packet as they are transmitted, by writing a sequence number in each packet header. Webber further discloses in paragraph 0017-0018 that the responder 103 transmits an acknowledgment back to the requester 102 when it receives a packet , which includes the packet's sequence number. The responder transmits a negative acknowledgment when the responder has detected a remote error in a packet transmitted by the requester. *Webber, however, fails to explicitly disclose of storing the tag at a location in the completor device if the error condition exists.*

Garcia teaches a system where both the requester and responder nodes maintain local copies of a message sequence number. Garcia discloses in column 9, lines 60-67 that the responder when it generates either a positive or negative acknowledgment, it has a logic that copies the incoming sequence numbers and uses it in the sequence number field for acknowledgment. Thus, the responder serving as the completor device stores the sequence numbers in the logic having a negative and positive acknowledgment. Therefore, it would have been to one of ordinary skills in the art at the time of the invention to modify the teachings of Webber to include a memory logic for storing acknowledgment error tags as taught by Garcia in order to provide high reliability and low latency communication in the event of failure.

Referring to claim 10, Webber discloses in paragraph 0018, 0026 and figure 2 of further comprising reporting the error condition if it exists as claim.

Referring to claim 11, Webber discloses in paragraphs 0018-0019 wherein the completion packet further comprises a completion status such as a negative or positive acknowledgment.

Referring to claim 12, Webber discloses in paragraph 0019-0020 wherein determining whether the completion status is expected [if a positive ack is received for packet 1, the requester must determine that ack 1 does not complete the descriptor message A and that ack 2 does,] further comprises determining whether the completion status is set as an unexpected result [the completion status is set as an unexpected results since the requestor may receive a completion status acknowledgment in a positive or negative form, see paragraph 0019-0020].

Referring to claims 13 and 15, Webber discloses in 0020 wherein a completion status other than successful may be at least one of an unsupported request, completor abort, malformed packet, and unexpected completion [the responder detects a remote error in a packet of a message (malformed packet), it sends a negative completion acknowledgment message to the requester, see 0020].

Referring to claim 14, Webber discloses in paragraph 0020 wherein transmitting a

completion packet [positive ack 2] further comprises returning no data with the completion

packet for a read completion [no data is returned and a message is considered complete when its

completion code is written to the CQ, see 0019].

Response to Arguments

Applicant argues in the remarks filed on 3/30/05 that Webber does not disclose or suggest

discarding the completion packet if the completion packet is not expected. Applicant further

argues that a packet with an error is not the same as a packet that is not expected. Examiner

respectfully disagrees and redirects Applicant's attention to Webber reference. Webber

specifically discloses in paragraphs 0020-0021 of the requesting device receiving an

acknowledgment packet [completion packet] specifically a negative acknowledgment packet,

upon receiving the negative acknowledgment completion packet, the packet is written to the CQ

and the packet is discarded. Furthermore, while the Examiner agrees that a packet with an error

is not the same as a packet that is not expected, however when a packet with an error is

transmitted to the requester when the requestor is not expecting the error packet based on the

sequence number, the packet with the error in sequence number will be discarded.

Applicant amends claim 7 to include indicating in a register in the completor device that

a completion packet with a completor status other than successful was transmitted if the error

condition exists. Examiner provides a rejection with explanation of Webber in view of Garcia to

rejection of the newly added amended limitation in claim 7. *Webber further fails to disclose*

indicating in a register in the completor device that a completion packet with a completor status

other than successful was generated/transmitted if the error exists. Garcia teaches a system

where both the requester and responder nodes maintain local copies of a message sequence

number. Garcia discloses in column 9, lines 60-67 that the responder when it generates either a

positive or negative acknowledgment, it has a logic that copies the incoming sequence numbers

and uses it in the sequence number field for acknowledgment. Garcia further discloses in col. 9,

lines 42-67 that the sequence number is used for generating a positive or negative

acknowledgement. Furthermore based on the respective section, when the responder serving as a

completor device stores the sequence number in the logic (register) is of negative status, a

negative acknowledgment is generated when a packet was not successfully received or was

unexpected in the order.

Based on the above explanation to the remarks/amendment 3/30/05, claims 1-8 and 10-15

respectfully remain rejected.

Conclusion

Any response to this final action should be mailed to:

Box AF
        Commissioner of Patents and Trademarks
        Washington, D.C. 20231

Or faxed to:

        (703)305-9051, (for formal communications; please mark "EXPEDITED
        PROCEDURE)

Or:

(703)305-5403 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chirag G. Shah whose telephone number is 571-272-3144. The examiner can normally be reached on M-F 6:45 to 4:15, 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cgs
June 21, 2005

Ajit Patel
Primary Examiner